



Cast Iron Soil Pipe Institute

Date: September 4, 2015

To: Whom it May Concern

In response to claims that cast iron soil pipes and fittings are corroding and failing because of exposure to salt air, the claims are without basis and there is no evidence presented to show such failures have ever occurred and much evidence to show that it does not occur.

Cast iron and steel both oxidize and can corrode when exposed to moisture. Because of the free graphite content of iron, the oxidation of a bare iron surface results in an insoluble layer of graphite forming during oxidation. This layer is dense, adherent and has considerable strength preventing further oxidation of the iron surface. The iron that is used for the manufacture of cast iron soil pipes and fittings are required by the ASTM and CISPI manufacturing standards to have a carbon equivalent of not less than 4.10%. Beginning in 1963 with the introduction of hubless cast iron, soil pipes and fittings have been required to have coatings which are intended to protect the pipes and fittings during transport and installation. The coatings are not intended as protection against corrosion but they are also not needed for corrosion protection because of the presence of the insoluble layer of graphite which forms when the bare iron is exposed to moisture.

At least 35% of the population of the United States live within close proximity of salt water. The cast iron piping in the buildings where these people live and work are exposed to salt air. There have been no reported failures of cast iron soil pipes and fittings because of exposure to salt air.

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Claims that failures have occurred have no technical basis and offer no evidence is provided. Evidence that cast iron does not fail when exposed to salt air can easily be found. Cast iron cannons used during the Civil war are found up and down the coast of the United States. Every major city in the US has cast iron fire hydrants, manhole covers and rings, scuppers on each street for storm water runoff and every major city uses cast iron pressure pipes for water supply, sewer force mains and outfall sewers on the ocean floor. Several of these major cities also use concentrated salt to melt snow and ice from road surfaces and the salt runoff is discharged into and through cast iron drain grates and manhole covers into cast iron storm piping with no detrimental effects on the cast iron products due to this salt.

My name is Bill LeVan and I have spent my entire working career working for manufacturers of cast iron pipes, fittings, and related piping products. I have worked for pipe and fittings manufacturers for 46 years. I have been chairman of the ASTM A04.12 subcommittee for over 20 years. This subcommittee has jurisdiction over all the ASTM iron pipes and tubes manufactured from a variety of different types of cast iron. Our oldest pipe standard was written in 1917. In my jobs working for cast iron pipe manufacturers I have investigated complaints related to corrosion of cast iron. I have never found a failure of cast iron because of external corrosion of cast iron soil pipes and fittings.

I am a graduate of the University of Tennessee, a member of IAPMO's Plumbing Technical Committee for over 20 years, and a member of ICC's standard review committee for over 15 years.

Sincerely,

Bill LeVan
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